

1 NEAR-INFRARED REFLECTING, ULTRAVIOLET PROTECTED,
5 SAFETY PROTECTED, ELECTROCHROMIC VEHICULAR GLAZING

10 ABSTRACT OF THE DISCLOSURE

An electrochromic window/glazing assembly is disclosed which reduces the transmission of near-infrared and ultraviolet radiation while protecting against risk of laceration or chemical contact if broken/damaged, against ultraviolet (UV) radiation degradation, and against fogging or misting in high humidity conditions. The window assembly may include a pair of glass or other elements confining an electrochromic medium therebetween for varying the light transmittance through the assembly. Transmission of near-infrared radiation is reduced by a reflector incorporating at least one semitransparent, elemental, thin metal film. Preferably, the thin metal film has a physical thickness of between about 80 angstroms to about 300 angstroms and of sheet electrical resistance of no greater than about 8 ohms/square, and is sandwiched between optically transparent thin metal compound films to form a thin film stack. One of the elements also may be laminated from a pair of optically transparent, tinted, tempered safety, or other glass panels and incorporate UV radiation reducing paint/lacquer coatings or tinted or clear polymeric films. The tinted glass preferably absorbs substantially more light in those regions of the visible spectrum higher than about 560 nanometers than in other regions of the visible spectrum.